Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Wireless Broadband Access Task Force Seeks Public Comment on Issues Related to Commission's Wireless Broadband Policies	)	GN Docket No. 04-163

To: The Commission

COMMENTS

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SUMMARY

One of the critical challenges facing the Commission is ensuring that all Americans have access to multiple, competing sources of broadband access. Cingular Wireless LLC ("Cingular") agrees with the Commission that wireless represents one way to meet this challenge. The critical component in this vision, however, is spectrum. With regard to unlicensed devices, more than 700 MHz is already available. Substantially less spectrum is available for the provision of wireless broadband access and advanced services by commercial licensees. In numerous dockets regarding access to high speed data services, the record clearly demonstrates a need for additional spectrum for licensed services. Thus, the Commission should move forward expeditiously with its proposed re-allocations and auctions for spectrum licensed for advanced wireless services.

In addition, the Commission should adopt a wireless broadband policy that encourages innovation and the deployment of advanced services by providing regulatory certainty. For the marketplace to work effectively and efficiently, spectrum rights must be clearly understood and be insulated from changes based on regulatory fiat. Without certainty, investments in broadband may not occur. A licensee may not invest billions in developing and deploying new platforms for wireless broadband access if these platforms are subject to interference caused by opportunistic devices or if there is a likelihood that in the future the Commission will reduce the interference protections afforded the licensees who develop and deploy these platforms.

Finally, the Commission should clarify that the Section 332(c)(3) fully applies to advanced services and broadband access provided via CMRS systems.

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COMMENTS

Cingular Wireless LLC ("Cingular"), by its attorneys, hereby submits comments in response to the Commission's *Public Notice* concerning wireless broadband.[1] As the Commission's Broadband Access Task Force ("Task Force") correctly notes, "[w]ireless broadband platforms are an increasingly popular alternative for business and residential consumers."[2] To increase the number of wireless broadband access alternatives, the Commission's broadband policy should ensure that sufficient spectrum exists for wireless broadband access. This policy also should promote innovation and investment by establishing regulatory certainty.

I. SPECTRUM AVAILABILITY

One of the critical challenges facing the Commission is ensuring that all Americans have access to multiple, competing sources of broadband access. Wireless has been identified as the "holy grail" for U.S. broadband policy.[3] As President Bush recently noted:

> [T]o make sure that we're the innovative society of the world . . . we [must] have access to . . . broadband technology in every part of our country. [When] I was the governor of Texas[,] . . . I re-

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1 Wireless Broadband Access Task Force Seeks Public Comment on Issues Related to Commission's Wireless Broadband Policies, GN Docket No. 04-163, *Public Notice*, DA 04-1266 (rel. May 5, 2004) ("*Public Notice*").

2 *Id.* at 1.

3 Mark Rockwell, Powell: Wireless as a Third Wire, RCR News (May 19, 2004).

> member talking about access to information and there was always a group of people saying, that's fine, big cities get it but rural people don't. I'm talking about broadband technology to every corner of our country by the year 2007 with competition shortly thereafter. . . .
>
> [A] proper role for the government is to clear regulatory hurdles so those who are going to make investments [in broadband technology] do so. Broadband is going to spread because it's going to make sense for private sector companies to spread it so long as the regulatory burden is reduced — in other words, *so long as policy at the government level encourages people to invest, not discourages investment.* . . . Listen, one of the technologies that's coming is wireless. . . . [W]ireless technology is going to change all that so long as government policy makes sense.[4]

One critical component in this vision of wireless broadband access is spectrum.[5] In the numerous dockets regarding access to high speed data services, the record clearly demonstrates a need for additional spectrum devoted to licensed services. Conversely, there has been no demonstrated need for additional *unlicensed* spectrum to provide wireless broadband access either through additional frequency allocations or through opportunistic use (underlays) of licensed spectrum.

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[4] President George W. Bush, President Unveils Tech Initiatives for Energy, Health Care and Internet, Remarks at American Association of Community Colleges Annual Convention (Apr. 26, 2004) (emphasis added), *at* <http://www.whitehouse.gov/news/releases/2004/04/print/20040426-6.html>. Chairman Powell also has recognized the importance of wireless broadband access: "Spectrum-based paths to homes and businesses hold great promise for the delivery of high speed internet. These paths ride on a variety of platforms: fixed and mobile, terrestrial and satellite, licensed and unlicensed." Remarks of Michael K. Powell, Chairman, Federal Communications Commission, Broadband Migration III: New Directions in Wireless Policy (Univ. of Colorado at Boulder, Oct. 30, 2002).

[5] The other critical component, as discussed in Section II, is regulatory certainty.

A. More Spectrum is Needed for Wireless Broadband Access

The need for additional spectrum for the provision of advanced services and broadband access on a licensed basis has been driven home in numerous proceedings.[6] For example, in the *Advanced Wireless Services* docket, most commenters acknowledged that large, contiguous spectrum blocks, rather than discrete slivers of spectrum, are necessary to support advanced wireless services.[7] As the Commission has noted, contiguous spectrum block allocations create significant spectrum efficiencies and are critical to supporting multiple advanced wireless service providers.[8]

Other nations also have recognized the need for licensed providers to have large amounts of spectrum to provide mass-market advanced services and broadband access, even when existing providers already have substantial spectrum for 2G networks.[9] For example, in the U.K., two

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[6] *See Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996,* GN Docket No. 04-54, *Notice of Inquiry*, 19 F.C.C.R. 5136 (2004); *Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems,* ET Docket No. 00-258, *Fourth Notice of Proposed Rulemaking,* 18 F.C.C.R. 13235 (2003).

[7] *See, e.g.,* Cingular Comments, ET Docket No. 00-258 (filed Oct. 22, 2001); Cingular Reply Comments, ET Docket No. 00-258 (filed Nov. 8, 2001); Comments of AT&T Wireless Services, Inc., ET Docket No. 00-258, at 3 (filed Oct. 22, 2001) ("AT&T Comments"); Comments of Ericsson Inc., ET Docket No. 00-258, at 8 (filed Oct. 19, 2001) ("Ericsson Comments"), Comments of Nokia, Inc. ET Docket No. 00-258, at 1 (filed Oct. 19, 2001) ("Nokia Comments"), Comments of Verizon Wireless, ET Docket No. 00-258, at 7-8 (filed Oct. 19, 2001) ("Verizon Comments").

[8] *See Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems,* ET Docket No. 00-258, *Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, 16 F.C.C.R. 16043, 16060 (2001).

[9] *See* UMTS World, UMTS/3G Licenses, *at* <http://www.umtsworld.com/industry/ licenses.htm> (visited May 8, 2004) (showing that many countries have granted licenses for as much as 40 MHz of UMTS spectrum).

incumbents (T-Mobile and Orange) each have 60 MHz of 2G spectrum and 25 MHz of 3G spectrum – a total of 85 MHz for their GSM/UMTS networks.[10] NTT DoCoMo has 86 MHz in Japan.[11]

Unlike their international counterparts, U.S. wireless licensees do not have access to similar blocks of spectrum. Until recently, CMRS carriers were limited to 45 MHz of spectrum in most areas.[12] As a result, many carriers lack the spectrum necessary to provide wireless broadband access and other 3G services along with legacy services.

At the same time, consumer demand for wireless broadband access and advanced services over dedicated, licensed spectrum is growing tremendously. U.S. consumers are demand-

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10 *See* Merrill Lynch, *European Wireless: If We Go to Bigger Buckets, What about Capex?*, Oct. 6, 2003, at 4.

11 *See* Prepared Testimony of Thorpe "Chip" Kelly, Senior Vice President for Sales & Marketing, Western Wireless Corp., Before the House Small Business Committee, Regulatory Reform and Oversight Committee, Rural Enterprises, Agriculture and Technology Subcommittee, *Eliminating the Digital Divide: Who Will Wire Rural America?*, FEDERAL NEWS SERVICE, May 24, 2001 (noting 86 MHz assigned nationally in Japan to NTT DoCoMo). Cingular has consistently taken the position that substantial blocks of spectrum would be needed for UMTS. In the *Advanced Wireless Services* docket, Cingular noted that there was 200 MHz less spectrum available than the ITU estimated would be needed for analog, 2G and 3G services in the United States. *See* Comments of Cingular Wireless LLC, ET Docket No. 00-258, at 2-3 (filed Oct. 22, 2001). Accordingly, Cingular urged the Commission to allocate 180 MHz for advanced wireless services, because "large contiguous spectrum blocks, rather than slivers of spectrum, are needed to support advanced wireless services." Reply Comments of Cingular Wireless LLC, ET Docket No. 00-258, at 3 (filed Nov. 8, 2001). More recently, Cingular stated that allowing for large blocks of 20-30 MHz of spectrum per license would provide "sufficient bandwidth to enable licensees to offer advanced services without having to resort to secondary market mechanisms to acquire additional spectrum." Reply Comments of Cingular Wireless LLC, WT Docket No. 02-353, at 7-8 (filed Mar. 14, 2003).

12 *See 2000 Biennial Regulatory Review: Spectrum Aggregation Limits for Commercial Mobile Radio Services, Report and Order*, 16 F.C.C.R. 22668, 22709 (2001) ("*2000 Biennial Regulatory Review*").

ing capabilities that require large amounts of bandwidth at high speeds to work properly, such as:[13]

- streaming video;[14]
- high-speed Internet transmission;[15]
- multimedia messaging capabilities;[16]
- the delivery of pictures over cell phones;[17]
- high-end gaming (such as real-time multiplayer games);[18]
- music offerings;[19] and
- location-based services.[20]

The demand for these services is immediate. For example, more than 3.5 million games have been downloaded in the first few months of 2004 by Sprint subscribers for use on their mobile phones.[21] Moreover, growth rates for data services dwarf the growth rate of wireless voice services.[22] As one analyst noted:

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13 *See* Description of Transaction, Public Interest Statement and Waiver Request of Cingular Wireless Corporation, FCC Form 603, Ex. 1, WT Docket No. 04-70, at 15-20 (filed Mar. 18, 2004) ("Public Interest Statement"); Public Interest Statement, Attachment 2, Declaration of William Hogg and Mark Austin at 4, 25 ("Hogg/Austin Declaration"); Public Interest Statement, Attachment 3, Declaration of Steve McGaw at 7 ("McGaw Declaration"); Public Interest Statement, Attachment 4, Declaration of Marc P. Lefar at 3 ("Lefar Declaration") at 3.

14 Hogg/Austin Declaration at 4, 25; McGaw Declaration at 7.

15 *See* Yuki Noguchi and Griff Witte, *Cingular Wins the Bidding*, THE WASHINGTON POST, Feb. 18, 2004, at E1 ("*Cingular Wins the Bidding*").

16 *See* Hogg/Austin Declaration at 4, 25; McGaw Declaration at 7.

17 *See Cingular Wins the Bidding, supra* note 15.

18 *See* Hogg/Austin Declaration at 4.

19 *See* McGaw Declaration at 7.

20 *See id.*

21 *See* News Release, Sprint Corp., *Sprint Announces More Than 3.5 Million Game Purchases in 2004*, (May 10, 2004) *at* <http://144.226.116.29/PR/CDA/PR_CDA_Press_Releases_Detail/0,3681,1112042,00.html>.

22 *See* Lefar Declaration at 2-3; Public Interest Statement, Attachment 5, Declaration of G. Michael Sievert at 1-2. As discussed below, Cingular's data traffic is increasing exponentially. Other countries where advanced services have been deployed show similar growth. In South

(continued on next page)

> The market has moved from a regulatory driven phase where availability, pricing and services were largely defined by regulatory decisions. The next period was a marketing phase driven by price plans, acquisition and retention programs, channel activities and advertising. Finally, the market now is entering a technology driven phase where the availability of mobile data (e-mail, Internet access), base stations and mobile computing will shape the market. The move to 3G service will further continue this trend.[23]

Cingular recently demonstrated that, from a technology standpoint, the logical transition for GSM carriers seeking to offer 3G services is from GSM/EDGE to the Universal Mobile Telecommunications System ("UMTS"). To deploy UMTS, a *minimum* of 10 MHz of dedicated spectrum (5 MHz uplink paired with 5 MHz downlink) must be set aside.[24] Because UMTS requires all customers in a sector to share the download bandwidth, a UMTS base station (prior to the introduction of HSDPA) that is capable of providing 384 kbps download speed to users at the outer boundary of service (up to 2 Mbps to close-in users) will only provide 38.4 kbps to 10 simultaneous users per sector.[25] Thus, additional UMTS channels will be needed to maintain adequate download speed as more subscribers demand access to 3G services.[26] Cingular anticipates

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(footnote continued)

Korea, for example, data accounts for 14 percent of cell phone company revenue. *See also* Yuki Noguchi and Griff Witte, *Wireless Firms Look at Phones as Limitless*, THE WASHINGTON POST, Feb. 19, 2004, at E1.

23 Paul Budde Communication Pty Ltd, *USA – Wireless Communications Market Overview*, 2004, at 7 *available for purchase at* http://www.budde.com.au/Reports/Contents/USA-Wireless-Communications-Market-Overview-1838.html.

24 *See* Hogg/Austin Declaration at 10.

25 *Id.* Of course, the speed will increase if the 10 users are not continuously using their full share of the bandwidth. For example, 10 users browsing web pages will not all be downloading data or graphics at the same time, so a much larger number of users would be able to browse at high speeds than could download simultaneously.

26 *Id.* at 11.

that three 10 MHz UMTS blocks – for a total of 30 MHz – will be necessary to meet anticipated demand for 3G services in most areas.[27]

There currently is insufficient spectrum available for all CMRS competitors to meet future demand for broadband wireless access whether utilizing UMTS or other 3G technologies. Although some carriers have sufficient spectrum to launch initial 3G services, additional spectrum will be necessary to satisfy expected demand for 3G services. Excluding the recently announced plans to re-auction substantial portions of spectrum previously held by NextWave,[28] the Commission plans to bring online as much as 150 to 170 MHz of spectrum for advanced wireless services over the next several years[29] – an amount which approaches the roughly 196 MHz currently allocated to cellular, broadband PCS, and enhanced specialized mobile radio ("ESMR") services.[30] In addition, the Commission has sought comment on rechannelizing the 2500-2690

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27 *Id.* at 21.

28 *See* News Release, Federal Communications Commission, *FCC Announces NextWave Settlement Agreement* (rel. Apr. 20, 2004), *at* <http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-246284A1.pdf> ("*Nextwave News Release*") (announcing that NextWave – which holds spectrum in 95 BTAs (including licenses covering each of the 10 largest MSAs) – would immediately return at least 90% of its spectrum for re-auction).

29 *Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, Second Report and Order,* 17 F.C.C.R. 23193 (2002) ("*AWS Allocation Order*"), *recon. pending; Rules for Advanced Wireless Servs. in the 1.7 GHz & 2.1 GHz Bands, Report and Order*, 18 F.C.C.R. 25162, 25173-79, 25185-25214 (2003); *Allocation of Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Third Report and Order, Third Notice of Proposed Rulemaking and Second Memorandum Opinion and Order*, 18 F.C.C.R. 2223 (2003); *Auction of Licenses for 747-762 & 777-792 MHz Bands (Auction No. 31) Is Rescheduled*, Public Notice, 17 F.C.C.R. 14546 (2002).

30 This figure includes the 26 or more MHz that Nextel claims to have in most major metropolitan areas. *See* Nextel Communications, Inc., SEC Form 10-K, 2003 Annual Report at 9, Mar. 11, 2004, *available at* < http://phx.corporate-ir.net/phoenix.zhtml?c=63347&p=irol-sec> ("We now have about 22 MHz of spectrum in the 800 and 900 MHz bands in most of the top 100

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MHz band to permit the deployment of low-powered, cellularized systems to facilitate the provision of advanced wireless services using MMDS and Instructional Television Fixed Service ("ITFS") spectrum. The Commission must move forward with these allocations to ensure that sufficient spectrum is available to meet demand for wireless broadband access and 3G services.

Further, the Commission must refrain from implementing its Interference Temperature concept[31] and the opportunistic use (underlays or easements) of unlicensed devices in licensed spectrum. It has been demonstrated that these schemes would have a dramatically negative effect on licensed carriers' capacity and coverage and would further constrain the ability of licensees to meet the demand for wireless broadband access and 3G services.

B. More than 700 MHz Already Has Been Allocated for Unlicensed Devices

A number of proceedings that would facilitate unlicensed operation remain pending and more than 700 MHz of spectrum has already been made available for unlicensed operations.[32] This is considerably more spectrum than is available for all CMRS and potential 3G services. Absent concrete evidence to the contrary, there should be no significant problem for unlicensed devices in terms of access to spectrum.

To the extent a record is developed demonstrating the need for additional unlicensed spectrum, the Commission should consider the establishment of additional bands allocated for

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(footnote continued)
U.S. markets and about 4 MHz of spectrum in the 700 MHz band in most major U.S. metropolitan markets, which spectrum is not currently in use.").

31 *See Establishment of an Interference Temperature Metric to Quantify and Manage Interference and to Expand Available Unlicensed Operation in Certain Fixed, Mobile and Satellite Frequency Bands*, ET Docket No. 03-237, *Notice of Inquiry and Notice of Proposed Rulemaking*, 18 F.C.C.R. 25309 (2003).

32 This includes the 902-928 MHz band, the 2400-2483.5 MHz band, and the various bands at 5 GHz (*i.e.*, 5.15-5.35 GHz and 5.47-5.875 GHz).

the operation of unlicensed devices, which would isolate these devices from bands in which licensees are entitled to operate on an exclusive basis without interference.[33] The Commission *should not* create underlays or easements for unlicensed use in bands already licensed.[34]

Moreover, any new unlicensed bands should be located above 5 GHz to ensure that the congestion problems below 5 GHz are not exacerbated. Allocating spectrum above 5 GHz for unlicensed devices will spur additional innovation in these bands. Manufacturers will be incented to focus their development dollars on equipment that would operate on uncongested spectrum, instead of equipment that would operate on congested spectrum below 5 GHz. This, in turn, would accelerate the development of equipment and services capable of operating in higher bands.[35] For example, the millimeter-wave portion of the electromagnetic spectrum was once deemed unfit for wireless broadband access. Once spectrum was made available in this band,

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[33] The Commission must balance the need for additional unlicensed spectrum against the need for spectrum for other uses, such as CMRS.

[34] *See, e.g.,* Cingular Comments, ET Docket No. 02-135 at 17-38 (filed Jan. 27, 2003); Cingular Comments, ET Docket No. 03-237 at 6-56 (filed Apr. 5, 2004).

[35] Considerable standards work relating to the higher frequencies, including unlicensed use, already is underway. *See* Vikki Lipset, *802.16e vs. 802.20,* INTERNET.COM, Sep. 4, 2003, *at* <http://www.wi-fiplanet .com/columns/article.php/3072471> ("The IEEE approved the 802.16e standards effort in February [2004] . . . There could be a draft of the .16e standard as early as the middle of 2004. . . ."); Press Release, IEEE, *IEEE Establishes New Standards Group to Raise Mobile Broadband Wireless Experiences to LAN-Like Levels* (Feb. 3, 2003) *at* <http://standards.ieee.org/announcements/p80220app.html; John Humbert, *et al., IEEE 802.20 System Requirements Document – Baseline Text Proposal,* C802.20-04/44, *at* <http://grouper.ieee.org/groups/802/20/Contribs/C802.20-04-44.doc>; Farooq Khan, *VoIP Traffic Models for 802.20 System Performance Evaluation,* C802.20-04/12, Jan. 5, 2004, *at* <http://grouper.ieee.org/groups/802/20/Contribs/C802.20-04-12.ppt>; Farooq Khan, *Status of 802.20 Evaluation Criteria,* C802.20-04/13, Jan. 6, 2004, *at* <http://grouper.ieee.org/groups/802/20/Contribs/C802.20-04-13.ppt>, Farooq Khan, *Status of 802.20 Traffic Model,* C802.20-04/20, Jan. 12, 2004, *at* <http://grouper.ieee.org/groups/802/20/Contribs/C802.20-04-20.ppt>; Farooq Khan, *802.20 Evaluation Criteria (Ver 07),* Jan. 12, 2004, C802.20-04/21, *at* <http://grouper.ieee.org/groups/ 802/20/Contribs/C802.20-04-21.doc>; Farooq Khan, *Status of 802.20 Evaluation Criteria and Traffic Models,* C802.20-04/38, *at* <http://grouper.ieee.org/groups/802/20/Contribs/C802.20-04-38.ppt>.

however, new technologies were developed that permit data transmissions in this band that rival fiber optic cable.[36]

II. COMMISSION REGULATIONS SHOULD CREATE CERTAINTY AND ENCOURAGE THE DEPLOYMENT OF ADVANCED TECHNOLOGIES AND SERVICES

In adopting a broadband policy, the Commission should ensure that it does not interfere with the effective operation of market forces. Congress has expressed its desire that the Commission refrain from adopting regulations that inhibit the operation of market forces.[37] The Commission's stated intention "to place ultimate reliance on the market, rather than on regulation to direct the course of development in the CMRS and other markets" is consistent with Congress' directive.[38]

In order for the marketplace to work effectively, spectrum rights must be clearly understood and must be insulated from changes based on regulatory fiat. Thus, a licensee should have the sole right to use (or lease) its assigned spectrum within a specified geographic area. This

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36 *See* Chris Koh, The Benefits of 60 GHz Unlicensed Wireless Communications, YDI Wireless (May 19, 2001) ("The Benefits of 60 GHz Unlicensed Wireless Communications") *at* <http://wireless.fcc.gov/outreach/2004broadbandforum/comments/YDI_benefits60GHz.pdf>; *Allocations and Service Rules for the 71-76 GHz, 81-86 GHz and 92-95 GHz Bands*, WT Docket No. 02-146, *Notice of Proposed Rulemaking*, 17 F.C.C.R. 12182, 12185-86 (2002) ("*Millimeter Wave Notice*") (noting that Loea Communications Corporation has developed a technology capable of transmitting video and teleconferencing on spectrum located above 70 GHz).

37 *See* 47 U.S.C. §§ 10, 11; *accord 2000 Biennial Regulatory Review,* 16 F.C.C.R. at 22926 (noting that the 1996 Act expressed the Congressional belief that "the operation of market forces generally better serv[es] the public interest than regulation"); *1998 Biennial Regulatory Review Spectrum Aggregation Limits for Wireless Telecommunications Carriers*, WT Docket 98-205, *Report and Order*, 15 F.C.C.R. 9219, 9222 (1999) ("*1998 Biennial Order*") (same); *Petition of New York State Public Service Commission to Extend Rate Regulation,* 10 F.C.C.R. 8187, 8190 (1995) (noting that the 1993 Act reflects a general Congressional "preference in favor of reliance on market forces rather than regulation" and that Section 332(c) "empowers the Commission to reduce CMRS regulation, and [] places on [the FCC] the burden of demonstrating that continued regulation will promote competitive market conditions.").

38 *1998 Biennial Order*, 15 F.C.C.R. at 9230-31.

clarity increases auction value, facilitates the creation of secondary markets, facilitates the development of equipment, and provides certainty to the capital markets. Congress recognized this fact when it granted the FCC authority to award licenses via a competitive bidding process. In discussing the need for competitive bidding authority, it declared that:

> Spectrum is a scarce resource, and thus *every exclusive license granted denies someone else the use of that spectrum. This is what give[s] spectrum a market value.* [39]

In fact, there would be little point in auctioning licenses for spectrum from which other users are not excluded. Without a protected, unique interest in the use of a block of spectrum, a licensee would be less able to gauge the spectrum's capacity, capabilities, and value and, therefore, would be less willing to bid its full value and invest in the facilities needed to make efficient and productive use of it to the benefit of consumers.

Markets work best when the assets being bought and sold are well defined, because that enhances the ability of buyers and sellers to assess their value and reach an optimal price. Uncertain or ill-defined rights, on the other hand, make it difficult for both buyers and sellers to value properties; they cause markets to work less efficiently. Markets do not work well in allocating rights that may be subject to significant change by regulators in the future. Given that the Commission's spectrum management inherently relies on license auctions, in accordance with the Communications Act of 1934, as amended (the "Act"), as a key market-based component, it is essential that rights and responsibilities be defined without ambiguity. Otherwise, auctions will not result in the licenses going to the parties who will make highest and best use of the spectrum.

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[39] H.R. Rep. No. 103-111, 103rd Cong. 1st Sess. 249 (1993), *reprinted in* 1993 U.S.C.C.A.N. 378, 576 (emphasis added).

Certainty is not created simply by adopting rules establishing the rights and responsibilities of licensees and spectrum users. Unless the protections afforded by these regulations are guaranteed, there is no certainty. For example, uncertainty now exists for "exclusive" licensees because the Commission seems predisposed to allowing unlicensed devices to use licensed spectrum on an opportunistic basis by amending Part 15 to permit unlicensed operations in exclusively licensed bands as it has done with its current Part 15 rules and recent ultra-wideband ruling. Or, the Commission could amend its rules to implement an interference temperature concept that would require "exclusive" licensees to share their spectrum. Absent defensible licensee rights to "complete" exclusivity for the term of the license, the creation of an exclusive licensing allocation policy provides little clarity and promotes an inefficient marketplace.

A lack of certainty also creates other marketplace inefficiencies. For example, if exclusive licensees have certainty, they will invest in new technologies and services. Without certainty, these investments may not occur.[40] A licensee may not invest the billions of dollars needed in developing and deploying new platforms for wireless broadband access if these platforms are subject to interference caused by opportunistic devices or there is a likelihood that the Commission in the future will reduce the interference protections afforded the licensees who would develop and deploy these platforms (*i.e.*, licensees are not protected from "substantial" interference). As the Commission's Technological Advisory Council has noted:

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[40] Moreover, providing certainty does not preclude innovation. Rather than spend development dollars in congested spectrum, companies will turn their attention to less congested bands. As discussed above, spectrum traditionally viewed as unacceptable for broadband access is now viable. For example, once spectrum was made available for unlicensed use in the millimeter-wave portion of the electromagnetic spectrum, new technologies were developed to permit high speed data transmission. *See* The Benefits of 60 GHz Unlicensed Wireless Communications; *Millimeter Wave Notice*, 17 F.C.C.R. 12185-86 (noting that Loea Communications Corporation has developed a technology capable of transmitting video and teleconferencing on spectrum located above 70 GHz).

> The prospect of spending development dollars for equipment and services which may be rendered worthless by perfectly legal interference from another system has an appropriately chilling effect on technology and service development. . . .[41]

The Commission's proposed interference temperature concept likely already has had a chilling effect on innovation. For example, when CDMA was developed, it allowed licensees to operate at signal levels previously viewed as commercially unattainable (*i.e.*, "below the noise floor"). It effectively lowered the operating point for licensees deploying CDMA technology by displacing analog technology that generated a higher "interference temperature." There is little incentive to develop a new technology that would permit operations below the current interpretation of the noise floor if, because such operations would be below the noise floor and, they would be unprotected from interference created by unlicensed operations.

Finally, market forces also provide incentives for licensees to develop "intensive engineering techniques that permit economically efficient sharing of spectrum by multiple users, as for example, various space, time or frequency multiplexing techniques."[42] Thus, a licensee with truly exclusive spectrum rights will lease spectrum for new, innovative use by others if it makes economic and technical sense.

III. STATES ARE PROHIBITED FROM REGULATING BROADBAND ACCESS VIA CMRS SYSTEMS

The Task Force asks whether there are "ways in which federal wireless broadband policies could facilitate better available policy options for states and municipalities."[43] In evaluating

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41 FCC Technological Advisory Council II, Sixth Meeting Report at 14 (Sept. 18, 2002).

42 *See* Evan Kwerel and John Williams, *A Proposal for a Rapid Transition to Market Allocation of Spectrum*, FCC Office of Plans and Policy Working Paper Series 38 (November 2002) at 5.

43 *Public Notice* at 3 (Item 11).

any policy options, Cingular cautions the Commission that state regulators are statutorily pre-empted from regulating the entry and rates of commercial mobile service.[44]

Pursuant to Section 332(c)(3) of the Communications Act of 1934, as amended, states are statutorily prohibited from regulating the "the entry of or the rates charged by any commercial mobile service."[45] Congress created this preemption to encourage the growth of mobile radio services by ensuring consistent, limited regulatory treatment[46] and it has been highly successful. Commercial mobile service is defined as "any mobile service . . . that is provided for profit and makes interconnected service available" to the public.[47] Mobile service is "a radio communication service carried on between mobile stations or receivers and land stations, and by mobile stations communicating among themselves."[48] A mobile station is "a radio-communication station capable of being moved and which ordinarily does move."[49]

Wireless broadband access and advanced services provided by CMRS carriers fall within the statutory definition of "commercial mobile service." These services are, and will be, enhancements to today's mobile service offerings – they will utilize the same cellular network ar-

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44 47 U.S.C. § 332(c)(3).

45 *Id.* A state can petition the Commission for such authority provided it shows that "(i) market conditions with respect to such services fail to protect subscribers adequately from unjust and unreasonable rates or rates that are unjustly or unreasonably discriminatory; or (ii) such market conditions exist and such service is a replacement for land line telephone exchange service for a substantial portion of the telephone land line exchange service within such State." *Id.*

46 *See Implementation of Sections 3(n) and 332 of the Communications Act Regulatory Treatment of Mobile Services*, GN Docket No. 93-252, *Second Report and Order*, 9 F.C.C.R. 1411, 1417-19 (1994).

47 47 U.S.C. § 332(d)(1).

48 47 U.S.C. § 153(27). Mobile service includes "both one-way and two-way radio communication services" and "any service for which a license is required in a personal communications service . . . ." *Id.*

49 47 U.S.C. § 153(28).

chitecture as the two-way mobile voice service, will use CMRS spectrum, and will allow seamless hand-off between cell sites as with mobile voice. Subscribers will access the service through wireless devices that will contain a built-in battery to allow for operation away from electrical outlets and will be capable of operation while in motion, even though users will likely operate the units from unspecified fixed locations throughout a coverage area.

This view is consistent with the Commission's previous conclusion that a wireless local loop service ("WLL") provided over a cellular network is a "commercial mobile service."[50] The WLL service, designed to compete with traditional wireline local exchange service, utilizes a laptop-sized wireless access unit connected to a conventional telephone, fax, or computer to provide a dial tone and access to the public switched telephone network via the cellular network. The Commission found that, even though the wireless access unit typically operated from a fixed location within the home, the wireless access units met the statutory definition of a mobile station because (i) the units were not limited to operation from a specific fixed location, (ii) the units were capable of being moved and could operate while in motion, and (iii) the record showed that the units were operated from locations outside of the home.[51]

The Commission rejected arguments that the second prong of the definition of a mobile station, "ordinarily does move," required an affirmative showing that end users typically or usually use the service while mobile.[52] Requiring such a showing would base regulatory treatment on the varying behavioral use of a service by customers, which is unworkable from a regulatory

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50 *See Petition of the State Independent Alliance and the Independent Telecommunications Group for a Declaratory Ruling that the Basic Universal Service Offering Provided by Western Wireless in Kansas is Subject to Regulation as Local Exchange Service*, WT Docket No. 00-239, *Memorandum Opinion and Order*, 17 F.C.C.R. 14802 (2002) ("*Western Wireless MO&O*").

51 *Id.* at 14812.

52 *Id.*

standpoint.[53] Moreover, classifying the service "as a fixed offering based on the assumption that most actual use is fixed . . . would discount the mobility that is an inherent part of the service offering."[54] The Commission thus held that the "ordinarily does move" prong is met if "mobile operation is an inherent part of the service offering that is reasonably likely and not an extraordinary or aberrational use of the equipment."[55]

The Commission separately held that even if the WLL service did not meet the statutory definition of mobile, it was still properly classified as CMRS because the service was incidental to the mobile cellular service offering pursuant to Section 22.323 of the Commission's rules, 47 C.F.R. § 22.323.[56] Although the Commission has since eliminated this rule section, the Commission has stated that the specified rule criteria remain relevant to whether a service is classified as incidental to a CMRS offering.[57]

Wireless broadband access and advanced services are and will be inherently mobile. More so than the WLL service, which has been classified as CMRS, the primary purpose of wireless broadband access and advanced services is mobility.[58] The access units are relatively lightweight and intended for mobile use, so that users have broadband access while on the go. If

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53 *Id.* at 14813.

54 *Id.*

55 *Id.*

56 *Id.* at 14817-18.

57 *Id.* at 14818 n. 108; *see also Year 2000 Biennial Regulatory Review – Amendment of Part 22 of the Commission's Rules*, WT Docket No. 01-108, *Report and Order,* 17 F.C.C.R. 18401 (2002) (eliminating Section 22.323).

58 *See* Verizon Wireless, Wireless Internet BroadbandAccess *at* <http://www.verizonwireless.com/b2c/mobileoptions/broadband/index.jsp?action=broadbandaccess> ("BroadbandAccess will give you the freedom to stay productive and connected whether you're on the road or in a meeting across town."); Nextel, Business Use, *at* <http://www.nextelbroadband.com/business_home.html> ("High-speed Internet access that goes where you go.").

an end user decides to use the mobile service to gain broadband access in the home from a desk-top computer at a fixed location, this is a consumer choice that will not negate the regulatory treatment of the service as mobile.[59] The inherent nature of the service dictates the regulatory classification.

In sum, wireless broadband access and advanced services offered by CMRS providers are inherently mobile and, therefore, are properly classified as CMRS. Accordingly, states are precluded from regulating the entry and rates charged for such services.

CONCLUSION

For the foregoing reasons, the Commission should expedite the licensing of additional spectrum for advanced wireless services and adopt a broadband policy that provides certainty and promotes investment. Finally, the Commission should clarify that states and localities are precluded from regulating wireless broadband access and advanced services offered over CMRS frequencies.

Respectfully submitted,

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59 *See Western Wireless MO&O*, 17 F.C.C.R. at 14813.

CERTIFICATE OF SERVICE

I, Paula Lewis, do hereby certify that on this 3rd day of June 2004, a copy of the foregoing Comments was served by hand-delivery to the following:

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